WHAT IS CLAIMED IS:

1. A method of manufacturing a heat exchanger integrally brazed, the method comprising steps of:

uniformly work-hardening a plurality of three-layer aluminum alloy plates to form a plurality of work-hardened plates, each of the three-layer aluminum alloy plates having a core made of a first aluminum alloy including manganese, a sacrifice anode layer clad on one side of the core and made of a second aluminum alloy which is electro-chemically base with respect to the first aluminum alloy, and a brazing layer clad on the other side of the core and made of a brazing third aluminum alloy;

forming a fluid passage and a tank portion on each of the plurality of work-hardened plates by drawing so that the sacrifice anode layer is disposed to face a corrosive fluid and the brazing layer is disposed to face a non-corrosive fluid; and

laminating the plurality of work-hardened plates.

2. A method of manufacturing a heat exchanger integrally brazed, the method comprising steps of:

uniformly work-hardening a three-layer aluminum alloy plate to form a work-hardened plate, the three-layer aluminum alloy plate having a core made of a first aluminum alloy including manganese, a sacrifice anode layer clad on one side of the core and made of a second aluminum alloy which is electro-chemically base with respect to the first aluminum

alloy, and a brazing layer clad on the other side of the core and made of a brazing third aluminum alloy; and

forming a tube from the work-hardened plate so that the sacrifice anode layer is disposed to face a corrosive fluid and the brazing layer is disposed to face a non-corrosive fluid.

3. The method according to claim 2, wherein the tube is formed by bending.

4. A heat exchanger comprising:

a core having a plurality of tubes and a plurality of outer fins made of a first aluminum alloy, the tubes and the outer fins being alternately laminated; and

a tank separately formed from the tubes, the tank into which one end of each of the tubes is inserted, wherein:

each of the tubes is produced by the following method:

uniformly work-hardening a three-layer aluminum alloy plate to form a work-hardened plate, the three-layer aluminum alloy plate having a core made of a second aluminum alloy including manganese, a sacrifice anode layer clad on one side of the core and made of a third aluminum alloy which is electro-chemically base with respect to the second aluminum alloy, and a brazing layer clad on the other side of the core and made of a brazing fourth aluminum alloy; and

forming each of the tubes by bending the work-hardened plate so that the sacrifice anode layer is disposed to face a corrosive fluid and the brazing layer is disposed to face a

core made of a first aluminum alloy including manganese and a sacrifice anode layer clad on one side of the core and made of a second aluminum alloy which is electro-chemically base with respect to the first aluminum alloy;

forming a fluid passage and a tank portion on each of the plurality of work-hardened plates by drawing so that the sacrifice anode layer is disposed to face a corrosive fluid and the core is disposed to face a non-corrosive fluid; and

laminating the plurality of the work-hardened plates.

5 ~~9~~. The method according to claim 8, further comprising a step of:

applying a brazing material to the core of each of the work-hardened plates.

6 ~~10~~. A method of manufacturing a heat exchanger integrally brazed, the method comprising steps of:

uniformly work-hardening a two-layer aluminum alloy plate to form a work-hardened plate, the two-layer aluminum alloy plate having a core made of a first aluminum alloy including manganese and a sacrifice anode layer clad on one side of the core and made of a second aluminum alloy which is electro-chemically base with respect to the first aluminum alloy; and

forming a tube by bending the work-hardened plate so that the sacrifice anode layer is disposed to face a corrosive fluid and the core is disposed to face a non-corrosive fluid.

7 ~~11~~. The method according to claim 10, further comprising a step of:

applying a brazing material to the core of the work-hardened plate.

8 ~~12~~. A heat exchanger comprising:

a core having a plurality of tubes and a plurality of outer fins made of a first aluminum alloy, the tubes and the outer fins being alternately laminated; and

a tank separately formed from the tubes, the tank into which one end of each of the tubes is inserted, wherein:

each of the tubes is produced by the following method:

uniformly work-hardening a two-layer aluminum alloy plate to form a work-hardened plate, the two-layer aluminum alloy plate having a core made of a second aluminum alloy including manganese and a sacrifice anode layer clad on one side of the core and made of a third aluminum alloy which is electro-chemically base with respect to the second aluminum alloy; and

forming a tube by bending the work-hardened plate so that the sacrifice anode layer is disposed to face a corrosive fluid and the core is disposed to face a non-corrosive fluid.

9 ~~13~~. The heat exchanger according to claim 12, wherein:

each of the outer fins is corrugated to have a plurality of parallel folds, each of the folds having a flat top through which each of the outer fins is joined to the

tubes; and

a brazing material is applied in a substantially straight line to a joint surface between the flat top and the tubes.

10 ~~14~~. The heat exchanger according to claim 12, wherein:

each of the outer fins is corrugated to have a plurality of parallel folds, each of the folds having a flat top through which each of the outer fins is joined to the tubes; and

a brazing material is applied in stripes to a joint portion between the flat top and each of the tubes.

11 ~~15~~. The heat exchanger according to claim 12, wherein an inner fin is disposed inside each of the tubes.

12 ~~16~~. The heat exchanger according to claim 4, wherein:

the non-corrosive fluid is a refrigerant; and

the core evaporates the refrigerant.

13 ~~17~~. The heat exchanger according to claim 12, wherein:

the non-corrosive fluid is a refrigerant; and

the core evaporates the refrigerant.

14 ~~18~~. The heat exchanger according to claim 16, wherein a thickness of each of the tubes is set to be in a range of 0.10-0.35 mm.

15 ~~19~~. The method according to claim 2, wherein the forming step is performed while the work-hardened plate has distortion.

16 ~~20~~. The method according to claim 2, wherein the forming step is performed while the work-hardened plate has a distortion rate of approximately 10-20 %.